

SERIAL NUMBER:

QUALITY CONTROL:

PERFORMANCE DATA OF ANTI-SCATTER GRIDS:

In publication IEC 60627 2001
Second Edition definitions,
determination and indication of
characteristics of anti-scatter grids
are described.

All our grids comply to this standard.

Engraved on the grids are:

- number of strips per centimeter
- grid ratio (r)
- focusing distance (f0) in centimeters
- serial number and type number

Absorber material:

Our grids are manufactured with
lead strips.

Interspace material:

The interspace material is fiber

Contrast improvement ratio,
Selectivity, Grid exposure factor,
Grid Quality factor (K, Σ , B, Q) see
table 1.

The primary, total and scatter
transmission (Tp, Tt and Ts) are
measured according to IEC 60627,
at 80 kV.

Contrast improvement ratio K:
(contrast factor)

$$K = \frac{\text{Transmission of primary radiation}}{\text{Transmission of total radiation}} = \frac{T_p}{T_t}$$

Selectivity Σ :

$$S = \frac{\text{Transmission of primary radiation}}{\text{Transmission of scattered radiation}} = \frac{T_p}{T_s}$$

Grid exposure factor B: (Bucky-factor)

$$B = \frac{1}{\text{Transmission of total radiation}} = \frac{1}{T_t}$$

Grid Quality factor Q:

$$Q = K \times T_p$$

Application limits

These are the focus distance limits
for use of a grid, where the loss of
primary radiation at the edge of the
grid is less than 40%, compared to
the primary radiation at the grid
centre.

The limits are a function of grid
width, focusing distance and grid
ratio.

For the various grid ratios,
dimensions and focusing distances
the application limits are shown in
table 2.

Table 1

Line rate/ratio	Tp	B (±10%)	K (±10%)	S (±10%)	Q (±10%)
36 / 8	76%	4.5	3.4	5.9	2.6
36 / 10	76%	5.0	3.8	7.2	2.9
36 / 12	75%	5.5	4.1	8.6	3.1
40 / 8	78%	4.3	3.4	5.6	2.6
40 / 10	77%	4.7	3.6	6.4	2.8
40 / 12	75%	5.2	3.9	7.8	2.9
40 / 15	74%	5.8	4.3	9.7	3.1
44 / 8	78%	4.1	3.2	5.0	2.6
44 / 10	77%	4.7	3.6	6.4	2.9
44 / 12	75%	5.2	3.9	7.9	3.0
44 / 15	74%	5.7	4.2	9.4	3.1
60 / 10	72%	5.3	3.8	7.4	2.7
60 / 13	71%	5.7	4.1	8.5	2.9
60 / 15	70%	6.1	4.2	9.7	2.9
70 / 13	71%	5.1	4.0	8.2	2.6
70 / 17	70%	5.7	4.4	11.8	2.9
80 / 13	70%	5.0	3.5	6.4	2.5
80 / 15	70%	5.4	3.8	7.3	2.6

smit röntgen

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Application Limits

Table 2

Ratio 6 : 1	Grid Width				
f0	18 cm	24 cm	30 cm	36 cm	43 cm
80 cm	50 - 196 cm	55 - 144 cm	59 - 124 cm	62 - 114 cm	64 - 106 cm
100 cm	57 - 386 cm	64 - 225 cm	69 - 180 cm	73 - 159 cm	76 - 145 cm
140 cm	69 - ∞ cm	79 - 630 cm	86 - 371 cm	92 - 291 cm	98 - 247 cm
180 cm	77 - ∞ cm	90 - ∞ cm	100 - 90 cm	108 - 540 cm	116 - 407 cm

Ratio 8 : 1	Grid Width				
f0	18 cm	24 cm	30 cm	36 cm	43 cm
80 cm	55 - 144 cm	60 - 120 cm	63 - 109 cm	65 - 103 cm	67 - 98 cm
100 cm	64 - 225 cm	71 - 171 cm	75 - 150 cm	78 - 138 cm	81 - 130 cm
140 cm	79 - 630 cm	88 - 336 cm	95 - 263 cm	101 - 229 cm	106 - 208 cm
180 cm	90 - ∞ cm	103 - 720 cm	113 - 450 cm	120 - 360 cm	127 - 310 cm

Ratio 10 : 1	Grid Width				
f0	18 cm	24 cm	30 cm	36 cm	43 cm
80 cm	59 - 124 cm	63 - 109 cm	66 - 102 cm	68 - 97 cm	70 - 94 cm
100 cm	69 - 180 cm	75 - 150 cm	79 - 136 cm	82 - 129 cm	84 - 123 cm
140 cm	86 - 371 cm	95 - 263 cm	102 - 223 cm	107 - 203 cm	111 - 189 cm
180 cm	100 - 900 cm	113 - 450 cm	122 - 346 cm	129 - 300 cm	135 - 271 cm

Ratio 12 : 1	Grid Width				
f0	18 cm	24 cm	30 cm	36 cm	43 cm
80 cm	62 - 114 cm	65 - 103 cm	68 - 97 cm	70 - 94 cm	71 - 91 cm
100 cm	73 - 159 cm	78 - 138 cm	82 - 129 cm	84 - 123 cm	87 - 118 cm
140 cm	92 - 291 cm	101 - 229 cm	107 - 203 cm	111 - 189 cm	115 - 179 cm
180 cm	108 - 540 cm	120 - 360 cm	129 - 300 cm	135 - 270 cm	141 - 250 cm

Ratio 14 : 1	Grid Width				
f0	18 cm	24 cm	30 cm	36 cm	43 cm
80 cm	64 - 107 cm	67 - 99 cm	69 - 94 cm	71 - 92 cm	72 - 90 cm
100 cm	76 - 147 cm	81 - 131 cm	84 - 124 cm	86 - 119 cm	88 - 115 cm
140 cm	97 - 252 cm	105 - 210 cm	111 - 191 cm	115 - 180 cm	118 - 172 cm
180 cm	115 - 420 cm	126 - 315 cm	134 - 274 cm	140 - 252 cm	145 - 237 cm